



# AEGIS UFLED

UFLED



**en** Installation Manual



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# 1 Safety

## 1.1 Safety precautions

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### DANGER!



High risk: This symbol indicates an imminently hazardous situation such as “Dangerous Voltage” inside the product. If not avoided, this will result in an electrical shock, serious bodily injury, or death.

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### WARNING!



Medium risk: Indicates a potentially hazardous situation. If not avoided, this could result in minor or moderate bodily injury.

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### CAUTION!



Low risk: Indicates a potentially hazardous situation. If not avoided, this could result in property damage or risk of damage to the unit.

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## 1.2 Important safety instructions

Read, follow, and retain for future reference all of the following safety instructions. Heed all warnings on the unit and in the operating instructions before operating the unit.

1. **Cleaning** - Generally, using a dry cloth for cleaning is sufficient but a moist, fluff-free cloth or leather shammey may also be used. Do not use liquid cleaners or aerosol cleaners.
2. **Heat Sources** - Do not install the unit near any heat sources such as radiators, heaters, stoves, or other equipment (including amplifiers) that produce heat.
3. **Liquids** - Never spill liquid of any kind, other than water, on the unit.
4. **Lightning** - Take precautions to protect the unit from power and lightning surges.

5. **Controls adjustment** - Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may cause damage to the unit.
6. **Power sources** - Operate the unit only from the type of power source indicated on the label.
7. **Servicing** - Unless qualified, do not attempt to service this unit yourself. Refer all servicing to qualified service personnel.
8. **Replacement parts** - Use only replacement parts specified by the manufacturer.
9. **Installation** - Install in accordance with the manufacturer's instructions and in accordance with applicable local codes.
10. **Attachments, changes or modifications** - Only use attachments/accessories specified by the manufacturer. Any change or modification of the equipment, not expressly approved by Bosch, could void the warranty or, in the case of an authorization agreement, authority to operate the equipment.

## 1.3 Important notices

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### **WARNING!**



When the lamp is running it is hot to the touch. Before touching switch off the illuminator and allow to cool for a minimum period of 10 minutes.

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### **WARNING!**

#### **LED Radiation**



Do not view directly with optical instruments (magnifiers).  
Do not stare directly into the lamp at a distance of less than 1.7 m (5.6 ft).

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**Grounding** - For mounting the unit in potentially damp environments, ensure to ground the system using the ground connection of the power supply connector (see section: Connecting external power supply).

**U.S.A. models only** - Section 810 of the *National Electrical Code*, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

**Disposal** - Your Bosch product was developed and manufactured with high-quality material and components that can be recycled and reused. This symbol means that electronic and electrical appliances, which have reached the end of their working life, must be collected and disposed of separately from household waste material. Separate collecting systems are usually in place for disused electronic and electrical products. Please dispose of these units at an environmentally compatible recycling facility, per *European Directive 2002/96/EC*



**Environmental statement** - Bosch has a strong commitment towards the environment. This unit has been designed to respect the environment as much as possible.

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**CAUTION!**



**Class I LED Product**

Invisible LED radiation when open (850 nm and 940 nm models). Avoid exposure to beam.

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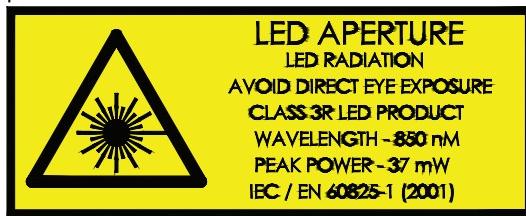
## 1.4 Notifications

### NOTICE! Class 3R notification for 850 nm models

The product is tested and compliant to IEC/EN 60825-1 (2001) under normal operating conditions, and is classified as a Class 3R LED product. The measured output under the thermal hazard test (Class 1/3R) was 36.9 mW, peak at 850 nm wavelength.



The following notification label is placed on the side of the product:



### NOTICE! Class 1M notification for 940nm models



The product is tested and compliant to IEC/EN 60825-1 (2001) under normal operating conditions, and is classified as a Class 1M LED product. The measured output under the thermal hazard test (Class 1M) was 22.7mW, peak at 940nm wavelength. No notification label is placed on the product.

## 1.5 Certifications



This product complies with European Directive 89/336/EEC and 73/23/EEC Low Voltage Directive meeting the following standards:

Safety	Electrical Safety:	IEC/EN60598-2-5 C22.2 No. 250.0-08 UL 1598 UL 2108
	Eye Safety:	IEC/EN60825-1
EMC	Radiated and Conducted Emissions	EN55022:1998 ICES-003 Issue 4:2004
	Immunity	EN50130-4:1995
	FCC	CFR 47:2007 Part 15.107 & 15.109 CLASS B LIMIT
IP	Ingress Protection	P67 in accordance with BS EN60529:1992

## 1.6 FCC & ICES compliance

### FCC & ICES Information

(U.S.A. and Canadian Models Only)

This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to *part 15* of the *FCC Rules*. These limits are designed to provide reasonable protection against harmful interference in a **residential installation**. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna;

- increase the separation between the equipment and receiver;
- connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
- consult the dealer or an experienced radio/TV technician for help.

Intentional or unintentional modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such modifications could void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

### **Informations FCC et ICES**

(modèles utilisés aux États-Unis et au Canada uniquement)

Suite à différents tests, cet appareil s'est révélé conforme aux exigences imposées aux appareils numériques de **classe B**, en vertu de la *section 15 du règlement de la Commission fédérale des communications des États-Unis (FCC)*, et en vertu de la norme *ICES-003 d'Industrie Canada*. Ces exigences visent à fournir une protection raisonnable contre les interférences nuisibles lorsque l'appareil est utilisé dans le cadre d'une **installation résidentielle**. Cet appareil génère, utilise et émet de l'énergie de radiofréquences et peut, en cas d'installation ou d'utilisation non conforme aux instructions, engendrer des interférences nuisibles au niveau des radiocommunications. Toutefois, rien ne garantit l'absence d'interférences dans une installation particulière. Il est possible de déterminer la production d'interférences en mettant l'appareil successivement hors et sous tension, tout en contrôlant la réception radio ou télévision. L'utilisateur peut parvenir à

éliminer les interférences éventuelles en prenant une ou plusieurs des mesures suivantes:

- Modifier l'orientation ou l'emplacement de l'antenne réceptrice;
- Éloigner l'appareil du récepteur;
- Brancher l'appareil sur une prise située sur un circuit différent de celui du récepteur;
- Consulter le revendeur ou un technicien qualifié en radio/télévision pour obtenir de l'aide.

Toute modification apportée au produit, non expressément approuvée par la partie responsable de l'appareil, est strictement interdite. Une telle modification est susceptible d'entraîner la révocation du droit d'utilisation de l'appareil. La brochure suivante, publiée par la Commission fédérale des communications (FCC), peut s'avérer utile : *How to Identify and Resolve Radio-TV Interference Problems (Comment identifier et résoudre les problèmes d'interférences de radio et de télévision)*. Cette brochure est disponible auprès du U.S. Government Printing Office, Washington, DC 20402, États-Unis, sous la référence n° 004-000-00345-4.

## 1.7 UL certification

### Disclaimer

Underwriter Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested fire, shock and/or casualty hazards as outlined in UP's *Standard(s) for Safety for Closed Circuit Television Equipment, UL 2044*. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product.

UL MAKES NO REPRESENTATIONS, WARRANTIES, OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT.

**Disclaimer**

Underwriter Laboratories Inc. (“UL”) has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested fire, shock and/or casualty hazards as outlined in UP's *Standard(s) for Safety for Information Technology Equipment, UL 60950-1*. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product.

**UL MAKES NO REPRESENTATIONS, WARRANTIES, OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING-RELATED FUNCTIONS OF THIS PRODUCT.**

## 1.8 Bosch notices

### **Copyright**

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### **Trademarks**

All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

### **Note:**

This manual has been compiled with great care and the information it contains has been thoroughly verified. The text was complete and correct at the time of printing. The ongoing development of the products may mean that the content of the user guide can change without notice. Bosch Security Systems accepts no liability for damage resulting directly or indirectly from faults, incompleteness or discrepancies between the user guide and the product described.

### **More information**

For more information please contact the nearest Bosch Security Systems location or visit [www.boschsecurity.com](http://www.boschsecurity.com)

## 2 Overview

### 2.1 Features

The AEGIS UFLED range of infrared and white light illuminators for CCTV, features patent-pending illumination technology and installation friendly design.

- Patent pending Constant Light technology automatically compensates for LED degradation to deliver a constant level of lighting performance for the life of the illuminator
- 3D Diffuser technology enables increased surveillance range, wider beam patterns and evenly illuminated night-time images
- Energy efficient, low voltage operation means quick and easy installation
- High efficiency surface mount LEDs deliver improved thermal management, long life and low cost of ownership
- Semi-covert, covert and visible white light versions available
- Easy integration with day/night cameras with relay contacts COM/NC/NO that indicate whether the photocell has activated the illuminator
- Telemetry input connection allows illuminator to be switched via a voltage free relay contact from a day/night camera signal, remote signal or PIR.
- Pressure equalisation valve prevents thermal expansion and pressure cycling problems within the illuminator head.

### 2.2 Lens / Beam pattern matching

The illuminator should be matched to the scene and the camera lens focal length. Before installation ensure that the illuminator has been correctly specified to support the CCTV system. When planning a system take into account the achievable distances, the lens/beam pattern and filters.

## 2.3 Achievable distances

Illumination distance achievable depend on the characteristics of the CCD camera and lens used.

Product Code	Wave-length	Beam Angle	Achievable Distance	HOV
UFLED10-8BD	850	10	220 m (720 ft)	40 m (125 ft)
UFLED20-8BD	850	20	150 m (490 ft)	55 m (175 ft)
UFLED30-8BD	850	30	110 m (360 ft)	60 m (195 ft)
UFLED60-8BD	850	60	70 m (230 ft)	80 m (265 ft)
UFLED95-8BD	850	95	50 m (165 ft)	110 m (360 ft)
UFLED120-8BD	850	120	35 m (115 ft)	120 m (400 ft)
SLED10-9BD	940	10	135 m (440 ft)	25 m (80 ft)
UFLED20-9BD	940	20	80 m (260 ft)	28 m (100 ft)
UFLED30-9BD	940	30	65 m (210 ft)	35 m (115 ft)
UFLED60-9BD	940	60	40 m (130 ft)	45 m (145 ft)
UFLED95-9BD	940	95	30 m (100 ft)	65 m (210 ft)
UFLED120-9BD	940	120	20 m (65 ft)	70 m (230 ft)
UFLED10-WBD	White	10	60 m (195 ft)	10 m (30 ft)
UFLED20-WBD	White	20	40 m (130 ft)	15 m (50 ft)
UFLED30-WBD	White	30	35 m (115 ft)	20 m (65 ft)
UFLED60-WBD	White	60	25 m (80 ft)	30 m (100 ft)
UFLED95-WBD	White	95	20 m (65 ft)	45 m (150 ft)
UFLED120-WBD	White	120	15 m (50 ft)	50 m (165 ft)

### Notes:

Achievable distance is based on a 20dB s/n ratio using a 1/2-in.

Ex-View CCD and F1.4 lens aperture.

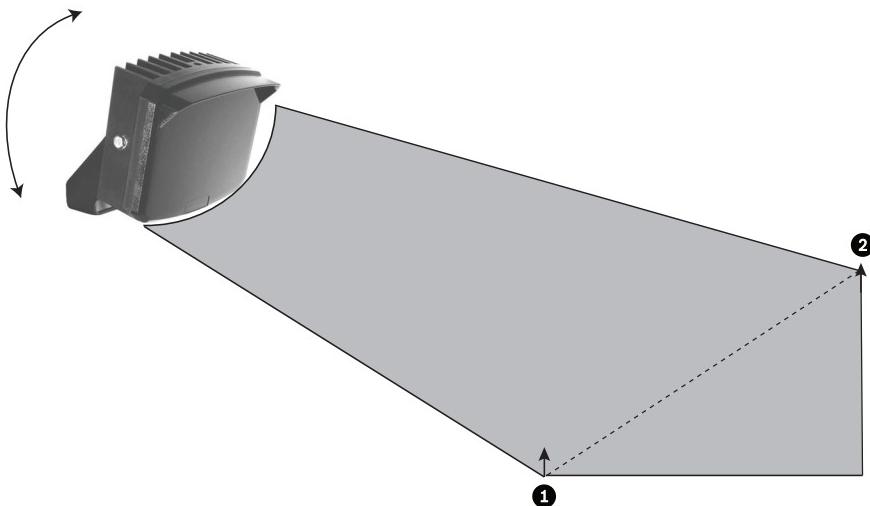
Wavelength at 850 nm infrared is semi-covert, 940 nm is covert, and white light is visible.

## 3 Installation

### 3.1 Setting up

Set up the unit correctly to obtain the best performance.

Optimum results are achieved by setting up at night and viewing the results on a monitor. Use the illustration below to assist with installation.



**Figure 3.1** Installing an AEGIS UFLED lamp

1	Nearest point
2	Furthest object

#### CAUTION!

When the unit has been operating for a while it becomes hot.

Switch off the illuminator and allow it to cool for a minimum of 10 minutes before touching.



Do not look directly into the unit at a distance of less than 1.7 m.

1. Attach the illuminator to a pan and tilt unit, wall bracket or camera housing as required.
2. Connect the illuminator to a 12–24 VDC or to a 24 VAC ( $\pm 15\%$ , 50/60 Hz) power supply.
3. Commission the mains supply, camera, and monitoring control equipment.
4. Adjust the pan of the illuminator to match the camera's field of view.
5. Loosen the bolts on each side of the unit and adjust the vertical alignment to maximize the results; re-tighten the bolts.
6. Tilt the unit downwards until the near part of required field of view is saturated with light as viewed on the monitor.
7. Slowly tilt the unit upwards until the furthest part of the required field of view is illuminated correctly on the monitor.

## 3.2 Connections



**Figure 3.2** AEGIS Illuminator Rear Panel

1	Photocell	5	IR Power Adjustment
2	Pressure Equalization Vent	6	Power Input 12 VDC/24 VAC
3	Day/Night Camera Switching	7	Photocell Sensitivity Adjustment
4	Telemetry Input		

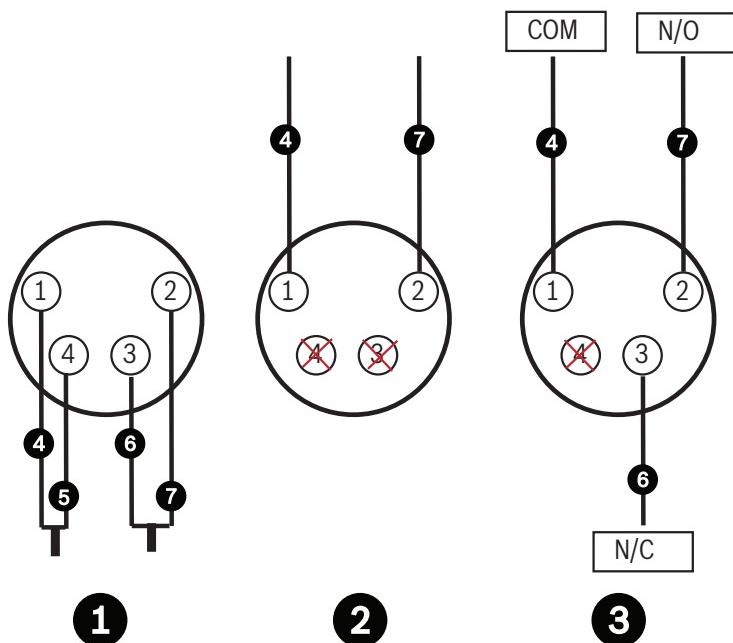


Figure 3.3 Wiring diagram

Type of Connection	Cable Color
1 AC/DC Power In	4 Brown cable
2 Telemetry	5 White cable
3 Volt Free Day/Night Switching	6 Black
	7 Blue

### 3.2.1 Telemetry input connection

The illuminator can be activated remotely by a remote switching device, camera signal or PIR.

The telemetry input connection is a Normally Open (NO) contact that is switched by a volt-free contact across pins 1 (brown) and 3 (blue) of the connector cable. For this function to work correctly, the photocell must be disabled so that the illuminator is continuously On.

Check that the switching device contacts are closed when the illuminator is Off and open when the illuminator is On.

### 3.2.2 Day/Night switching output connection

The day/night output can be used to switch a day/night camera to its monochrome night mode if the illuminator is switched On. To use this function, it is necessary to determine if the camera requires an NO or an NC circuit to switch into its night mode. Use the telemetry cables to link the brown and blue wires to the camera switching input if a NO circuit is required to activate the night mode. If a NC signal is required to activate the night mode, use the brown and black wires.

### 3.2.3 Photocell Sensitivity

To adjust photocell sensitivity first remove the sealing cap, then adjust the potentiometer to turn the lamp on at the desired lighting conditions.



#### NOTICE!

Replace the sealing cap after adjustment to ensure water ingress protection.

#### Disabling the photocell

Turn the photocell fully clockwise to disable the photocell. The lamp will remain on all the time unless the telemetry input is closed circuit.

**Photocell Operation** The photocell is designed to automatically switch the lamps ON at dusk and turn OFF at dawn. A high degree of hysteresis is incorporated to avoid ON/OFF switching in marginal light conditions.

**Note:**

Potentiometer Factory set at mid-point 500 Lux ON and 850 Lux OFF (approximately).

Check the photocell functions by covering with black tape and having the telemetry link closed. The photocell operation has an in-built delay of up to 5 seconds.

### 3.2.4 Power adjustment

To adjust power, first unscrew the sealing cap; the potentiometer is set at the maximum calibration point (fully clockwise). To decrease the power, turn the potentiometer counter clockwise.

**NOTICE!**

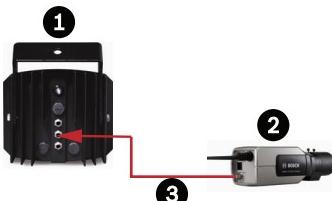
Replace the sealing cap after adjustment to ensure water ingress protection.

## 3.3 Remote Switching

Various switching configurations can be made using an interface cable. Commonly used switching configurations are explained below.

### 3.3.1 Camera (or other switching device) Leading

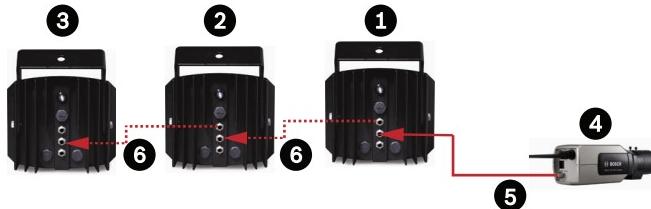
The illuminator may be activated remotely by a volt-free contact latched across the TELEMETRY input. Use interface cable UFLED-CI-5M.



1	UFLED Illuminator
2	Camera
3	UFLED-CI-5M

### 3.3.2 Looping Multiple Illuminators

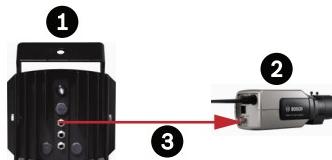
Multiple illuminators can be linked for synchronous illuminator switching. Use link cable (UFLED-CL-1M) between the DAY/NIGHT CAMERA output and the TELEMETRY input as shown in the diagram below.



1	UFLED Illuminator 1
2	UFLED Illuminator 2
3	UFLED Illuminator 3
4	Camera
5	UFLED-CI-5M
6	UFLED-CI-1M

### 3.3.3 Illuminator Leading

The DAY/NIGHT CAMERA output may be used to switch the camera between the Day and Night mode. Use interface cable (UFLED-CI-5M).

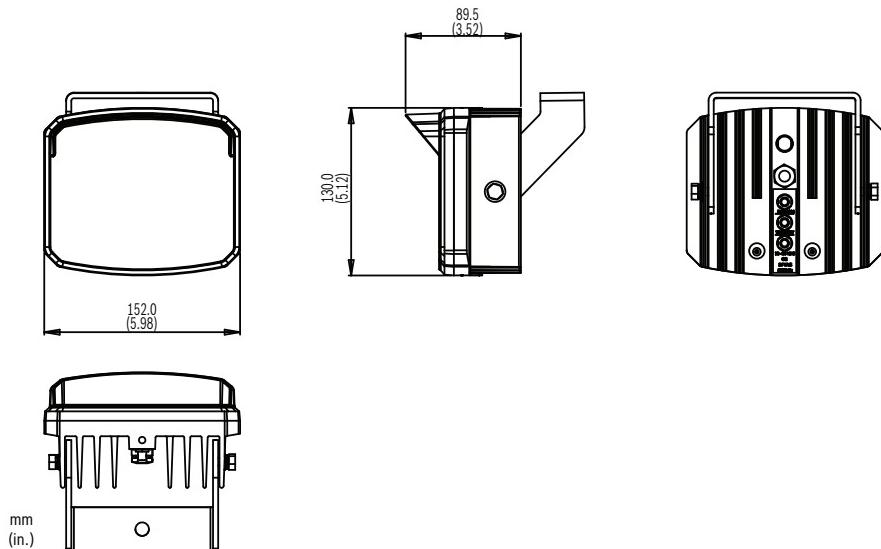


1	UFLED Illuminator
2	Camera
3	UFLED-CI-5M

## 4 Specifications

LEDs	High efficiency Surface Mount LEDs with current limited integral circuits
Beam patterns	10°, 20°, 30°, 60°, 95°, 120°
Wavelength	850 nm, 940 nm and visible white light (model dependent)
Average life	> 10 years
Power Consumption	26–45 W (45 W max power)
	Power consumption will vary over time due to optical output control which compensates for LED degradation and ambient temperature fluctuations
Input voltage	12–24 VDC or 24 VAC (±15 %, 50/60 Hz)
Temp range	-40°C to +50°C (-40°F to 122°F) max on full power
Ingress Protection	in accordance with BS EN60529:1992
Construction	Robust aluminium extrusion with acrylic front window
Dimensions	152 x 130 x 115 mm (6.0 x 5.1 x 4.5 in.)
Color	IR: Black anodized heat sink with black front fascia
	White Light: Black anodized heat sink with clear fascia
Weight	1.4 Kg (3.1 lbs)
Power cable	Supplied with IP67 power connector and 5 m (16.4 ft) of connecting lead
Bracket	Wall mount U bracket included
Accessories	
– Power Supply	Bosch PSU-224-DC100 Other compatible power supplies may be used, ensure the above voltage and power requirements are met.
– Telemetry Cable	Bosch UFLED-CI-1M Universal 5 m cable for telemetry.
– Link Cable	Bosch UFLED-CI-1M Dedicated 1 m cable to synchronize multiple illuminators

## 4.1 Dimensions







**Bosch Security Systems, Inc.**

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